

What is claimed is:

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1. An image processing unit comprising:
 - an A/D converter for carrying out A/D conversion of image signals output from an image pickup apparatus that picks up an image and converts it into electrical signals, and for outputting A/D converted image signals as image data;
 - a fixed length coding circuit for dividing the image data into unit blocks, each consisting of a predetermined number of pixels, and for coding the pixels in each unit block after obtaining an average level of the pixels in the unit block; and
 - an exposure controller for calculating a luminance level of a whole set of pixel data in the unit blocks by integrating the average levels of the unit blocks, and for controlling exposure of the image pickup apparatus such that the luminance level of the image data matches a predetermined level.
 2. The image processing unit according to claim 1, further comprising a coded image memory for storing fixed length coded data output from the fixed length coding circuit, the fixed length coded data including the average levels of the unit blocks.
 3. The image processing unit according to claim 2, further comprising a fixed length decoding circuit for reading from said coded image memory the fixed length coded data, for calculating a luminance level of the image data from the average levels, and for carrying out fixed length decoding of the fixed length coded data with performing gain correction for adjusting the luminance level of the image data to a

predetermined level.

4. The image processing unit according to claim 2, further comprising:

5 a fixed length decoding circuit for reading from said coded image memory the fixed length coded data, and for carrying out fixed length decoding of the fixed length coded data; and

10 a signal processor for carrying out, using the average levels, gain correction of image data output from said fixed length decoding circuit.

5. An image processing unit comprising:

15 an A/D converter for carrying out A/D conversion of image signals output from an image pickup device that picks up an image and converts it into electrical signals including a plurality of color components, and for outputting A/D converted image signals as image data;

20 a pixel rearrangement circuit for sorting the image data output from said A/D converter such that each color component is arranged in a unit block, each of which consists of a predetermined number of pixels; and

25 a fixed length coding circuit for coding the pixels in each unit block after obtaining an average level of the pixels in the unit block.

6. The image processing unit according to claim 5, further comprising an exposure controller for calculating a luminance level of a whole set of pixel data in the unit blocks by
30 integrating the average levels of the unit blocks, and for

5 7. The image processing unit according to claim 5, further comprising signal level correction means for correcting, using the average levels of the unit blocks, relative signal levels of the respective color components.

15 9. The image processing unit according to claim 8, wherein
said signal level correction means reads from said coded image
memory the average levels, calculates from the average levels
luminance levels of the pixel data in the unit blocks of the
20 respective color components, and corrects signal levels of
the color components such that the luminance levels of the
color components match with each other.

10. The image processing unit according to claim 8, further comprising a fixed length decoding circuit for reading from said coded image memory the fixed length coded data, and for carrying out fixed length decoding of the fixed length coded data with performing gain correction for adjusting, for each color component, the luminance level of the image data to a predetermined level by using the average levels.

